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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,227	09/03/2003	Philippe J. Sartori	CML00917M (78837)	4742

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EXAMINER	
DEAN, RAYMOND S	

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 11/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,227	SARTORI ET AL.	
	Examiner	Art Unit	
	Raymond S. Dean	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 10, 12 - 14, 17 - 25, 28 - 45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 10, 12 - 14, 17 - 25, 28 - 45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0104*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 10, 12 – 14, 17 – 19, 23, 25, 28 – 31, 36 – 39, and 41 – 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmutz (US 2002/0031621) in view of Durrant et al. (US 6,501,955) and in further view of Nakatsugawa (US 2001/0014586).

Regarding Claim 1, Durrant teaches a wireless relay resource to thereby at least attempt to increase a quality of service to support the wireless transmission from the transmitter that is presently within communications range of the base site (Figure 1, Column 4 lines 12 – 55).

Durrant does not teach a method comprising: at a base site: determining a need to receive a wireless transmission from a transmitter that is presently within communications range of the base site, a wireless relay resource comprising a demodulation processing relay resource, automatically determining whether to selectively allocate a wireless relay resource to thereby at least attempt to increase a quality of service to support the wireless transmission from the transmitter that is

presently within communications range of the base site, providing an instruction to the wireless relay resource to cause the wireless relay resource to relay at least portions of the wireless transmission from the transmitter, wherein the instruction comprises providing at least identifying information regarding the transmitter.

Schmutz teaches a method comprising: at a base site: determining a need to receive a wireless transmission from a transmitter that is presently within communications range of the base site (Section 0037 lines 10 – 12, the base station will read the RACH channel to determine if a mobile station within in range of said base station wants to communicate with said base station so that said mobile station can access the network) and a wireless relay resource comprising a demodulation processing relay resource (Figure 4, Section 0041).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the determining method and demodulator taught in Schmutz in the system of Durrant for the purposes of enabling the base station to know when a mobile station wants to communicate with said base station and providing a common format used internally within translating repeaters as taught by Schmutz.

Durrant in view of Schmutz does not teach automatically determining whether to selectively allocate a wireless relay resource to thereby at least attempt to increase a quality of service to support the wireless transmission from the transmitter that is presently within communications range of the base site, providing an instruction to the wireless relay resource to cause the wireless relay resource to relay at least portions of

the wireless transmission from the transmitter, wherein the instruction comprises providing at least identifying information regarding the transmitter.

Nakatsugawa teaches automatically determining whether to selectively allocate a wireless relay resource to thereby at least attempt to increase a quality of service to support the wireless transmission from the transmitter that is presently within communications range of the base site (Sections 0016 lines 1 – 3, 0059, 0062), providing an instruction to the wireless relay resource to cause the wireless relay resource to relay at least portions of the wireless transmission from the transmitter (Sections 0016 lines 1 – 3, 0059, 0062, in order for the repeater to be selected an instruction will be provided), wherein the instruction comprises providing at least identifying information regarding the transmitter (Section 0062, the repeaters are activated for specific terminals or transmitters thus the instruction will comprise the identity of said terminals or transmitters).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Durrant in view of Schmutz with the selective allocation method of Nakatsugawa for the purpose of maintaining communications between the base station and the mobile station despite the movement of a shielding object near the communication path as taught by Nakatsugawa.

Regarding Claim 2, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches receiving a wireless message from the transmitter that includes an indication of a need to transmit the wireless message to the base site (Section 0037 lines 10 – 12).

Regarding Claim 3, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches receiving the wireless message, at least in part, via a control channel (Section 0037 lines 7 – 10).

Regarding Claim 4, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Nakatsugawa further teaches determining that a present wireless communication path between the transmitter and the base site will not likely support a desired effective data rate (Section 0062).

Regarding Claim 5, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 4. Durrant further teaches using information regarding link channel quality for at least one transmission from the base site to the transmitter (Column 4 lines 4 – 8, Column 4 lines 12 – 19, the SIR and SNR are a channel quality metrics).

Regarding Claim 6, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Nakatsugawa further teaches automatically determining whether to allocate a plurality of wireless relay resources to thereby at least attempt to increase the quality of service (Sections 0016 lines 1 – 3, 0059, 0062).

Regarding Claim 7, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 6. Nakatsugawa

further teaches allocating selected ones of the pluralities of wireless relay resources to at least attempt to increase the quality of service (Section 0062).

Regarding Claim 8, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 7. Nakatsugawa further teaches allocating some but not all presently available wireless relay resources (Section 0062).

Regarding Claim 9, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches automatically determining whether to allocate a wireless relay resource that utilizes at least one carrier resource that is otherwise also shared by a communication system that includes the base site to effect direct communications between the base site and member communication units (Section 0038 lines 1 – 5, the traffic time slots are carrier resources that effects direct communications between the base station and the mobile station, said traffic time slots are also used by the repeater).

Regarding Claim 10, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches automatically determining whether to allocate a wireless relay resource that utilizes at least one carrier resource that is not otherwise also shared by a communication system that includes the base site to effect direct communications between the base site and member communication units (Section 0031 lines 1 – 5, the carrier resource is the translated frequency of the wireless link between the base station

and repeater, the direct link between the base station and the mobile station is a different frequency than said link between said repeater and said base station).

Regarding Claim 12, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches providing the instruction via a control channel (Section 0038 lines 1 – 14).

Regarding Claim 13, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 12. Schmutz further teaches providing the instruction via a control channel that is also used to exchange at least some control information between the base site and the transmitter (Section 0038 lines 1 – 14, the SDCCH is in the direct link between the base station and the mobile station, said SDCCH is also used in the link between the base station and repeater).

Regarding Claim 14, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Nakatsugawa further teaches providing at least one of: - a particular transmission parameter to expect when receiving the transmission from the transmitter; - a particular transmission parameter to use when relaying the transmission; - identifying information regarding a particular channel to monitor to receive the transmission from the transmitter; - identifying information regarding a particular channel to utilize when relaying the transmission to the base site (Section 0062, a minimum bit error, which is a transmission parameter, is expected).

Regarding Claim 17, Durrant in view of Schmutz and in further view of Nakatsugawa and in further view of Nakatsugawa teaches all of the claimed limitations

recited in Claim 1. Durrant further teaches using relayed transmissions from a plurality of relay resources to receive the transmission from the transmitter (Column 4 lines 12 – 38).

Regarding Claim 18, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 17. Durrant further teaches receiving, on a same time-frequency channel, portions of the relayed transmissions from several of the plurality of relay resources to reconstruct the transmission (Column 4 lines 51 – 55, the DECT physical layer uses FDMA, TDMA, and TDD thus the radio spectrum is divided into physical channels in two dimensions time and frequency).

Regarding Claim 19, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 18. Durrant further teaches decoding received portions of the relayed transmissions from several of the plurality of relay resources to reconstruct the transmission (Column 4 lines 12 – 38, the information that is relayed modulate an RF carrier, the base station will demodulate and decode the signal and combine the packets that comprise the transmitted information for reconstruction of said information).

Regarding Claim 23, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Durrant further teaches combining received portions of relayed transmissions from the wireless relay resource with portions of transmissions from the transmitter to reconstruct the transmission (Column 4 lines 12 – 38, information that is transmitted by the mobile

station to the base station is broken down into packets of data, in order for said information transmitted by said mobile station to be reconstructed the packets of data that comprise said information will be combined).

Regarding Claim 25, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 23. Durrant further teaches combining received portions of relayed transmissions from at least one wireless relay resource with previously stored portions of transmissions from the transmitter to reconstruct the transmission (Column 4 lines 12 – 38, the information that is transmitted by the mobile station to the base station is broken down into packets of data, in order for said information transmitted by said mobile station to be reconstructed the packets of data that comprise said information will be stored until all packets are received and then combined).

Regarding Claim 28, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches a demodulation and decoding processing relay resource (Section 0041).

Regarding Claim 29, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Durrant further teaches negotiating a data rate for the transmitter to utilize when transmitting the transmission (Column 4 lines 12 – 38).

Regarding Claim 30, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches determining a need to receive a wireless transmission comprising bearer data

and not system control information that corresponds to resource allocation (Section 0036 lines 1 – 7, the traffic sub-channels will contain bearer data).

Regarding Claim 31, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Durrant further teaches allocating a communication resource to the relay resource (Column 4 lines 12 – 38, the repeater relays the data packets to the base station thus said repeater will have a communication means).

Regarding Claim 36, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Nakatsugawa further teaches automatically determining whether to allocate a wireless relay resource to thereby at least attempt to increase a quality of service to support a wireless transmission from the base site to the transmitter that is presently within communications range of the base site (Sections 0016 lines 1 – 3, 0059, 0062).

Regarding Claim 37, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 36. Nakatsugawa further teaches automatically determining whether to allocate a wireless relay resource to thereby at least attempt to increase a quality of service to support a wireless transmission from the base site to the transmitter that is presently within communications range of the base site (Sections 0016 lines 1 – 3, 0059, 0062) Durrant further teaches but allocating a wireless relay resource to thereby at least attempt to increase a quality of service to support a wireless transmission from the base site to the transmitter that is presently within communications range of the base site but channel

conditions for wireless transmissions from the base site to the transmitter are determined to be unacceptable due, at least in part, to channel characteristics (Column 4 lines 12 – 38, when the SNR and SIR are low the channel conditions will be unacceptable and the data rate will be low thus the repeater will be allocated to increase said data rate).

Regarding Claim 38, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 37. Schmutz further teaches delay spread characteristics (Section 0032 lines 1 – 4, delay spread occurs as a result of multipath).

Regarding Claim 39, Durrant in view of Schmutz and in further view of Nakatsuyama teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches allocating a wireless relay resource that couples via a wireless link to the base site (Section 0031 lines 1 – 5).

Regarding Claim 41, Durrant teaches a communications controller comprising: - a wireless transmitter and receiver (Column 4 lines 12 – 38, the base station is the communication controller, said base station comprises transceivers); - a relay resource to improve quality of service for a wireless transmission from the remote unit when transmitting within reception range of the receiver (Figure 1, Column 4 lines 12 – 55).

Durrant does not teach a resource allocator that is operably coupled to the wireless transmitter and receiver and that is responsive to a wirelessly transmitted signal from a remote unit that is within reception range of the receiver requesting allocation of a communication resource to facilitate transmission of information to the

receiver, a relay resource activator that is operably coupled to the resource allocator, such that a relay resource having a demodulation processing relay resource can be selectively activated by the communications controller to improve quality of service for a wireless transmission from the remote unit when transmitting within reception range of the receiver and provides an instruction to the relay resource to cause the relay resource to relay at least portion of the wireless transmission from the transmitter, wherein the instruction comprises providing at least identifying information regarding the transmitter.

Schmutz teaches a relay resource having a demodulation processing relay resource (Figure 4, Section 0041).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the demodulator taught in Schmutz in the system of Durrant for the purpose of providing a common format used internally within translating repeaters as taught by Schmutz.

Durrant in view of Schmutz does not teach a resource allocator that is operably coupled to the wireless transmitter and receiver and that is responsive to a wirelessly transmitted signal from a remote unit that is within reception range of the receiver requesting allocation of a communication resource to facilitate transmission of information to the receiver, a relay resource activator that is operably coupled to the resource allocator, such that a relay resource can be selectively activated by the communications controller to improve quality of service for a wireless transmission from the remote unit when transmitting within reception range of the receiver and provides an

instruction to the relay resource to cause the relay resource to relay at least portion of the wireless transmission from the transmitter, wherein the instruction comprises providing at least identifying information regarding the transmitter.

Nakatsugawa teaches a resource allocator that is operably coupled to the wireless transmitter and receiver and that is responsive to a wirelessly transmitted signal from a remote unit that is within reception range of the receiver requesting allocation of a communication resource to facilitate transmission of information to the receiver (Sections 0016 lines 1 – 3, 0059, 0062), a relay resource activator that is operably coupled to the resource allocator, such that a relay resource can be selectively activated by the communications controller to improve quality of service for a wireless transmission from the remote unit when transmitting within reception range of the receiver and provides (Sections 0016 lines 1 – 3, 0059, 0062) an instruction to the relay resource to cause the relay resource to relay at least portion of the wireless transmission from the transmitter, wherein the instruction comprises providing at least identifying information regarding the transmitter (Sections 0016 lines 1 – 3, 0059, 0062, in order for the repeater to be selected an instruction will be provided, the repeaters are activated for specific terminals or transmitters thus the instruction will comprise the identity of said terminals or transmitters).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Durrant in view of Schmutz with the selective allocation method of Nakatsugawa for the purpose of maintaining

communications between the base station and the mobile station despite the movement of a shielding object near the communication path as taught by Nakatsugawa.

Regarding Claim 42, Durrant in view of Schmutz and in further view of Nakatsuyama teaches all of the claimed limitations recited in Claim 41. Nakatsugawa further teaches means for determining when to activate a relay resource to support a requested allocation of resources to facilitate the transmission of information to the receiver (Sections 0016 lines 1 – 3, 0059, 0062).

Regarding Claim 43, Durrant in view of Schmutz and in further view of Nakatsuyama teaches all of the claimed limitations recited in Claim 41. Durrant further teaches means for providing instructions to a given relay resource comprising at least one of - a particular data transmission rate to expect when receiving the transmission from the remote unit; - a particular data transmission rate to use when relaying the transmission to the receiver; - identifying information regarding a particular channel to monitor to receive the transmission from the remote unit; - identifying information regarding a particular channel to utilize when relaying the transmission to the receiver (Column 4 lines 12 – 38, the repeater will provide a particular data transmission rate).

Regarding Claim 44, Durrant in view of Schmutz and in further view of Nakatsuyama teaches all of the claimed limitations recited in Claim 41. Nakatsugawa further teaches means for substantially simultaneously activating a plurality of relay resources to improve the quality of service for the wireless transmission from the remote unit (Section 0062).

Regarding Claim 45, Durrant in view of Schmutz and in further view of Nakatsuyama teaches all of the claimed limitations recited in Claim 44. Durrant further teaches reception means for receiving relayed transmissions from the plurality of relay resources and for reconstructing the wireless transmission from the remote unit by combining relayed transmissions from at least two of the plurality of relay resources (Column 4 lines 12 – 38, information that is transmitted by the mobile station to the base station is broken down into packets of data, in order for said information transmitted by said mobile station to be reconstructed the packets of data that comprise said information will be combined).

3. Claims 20 – 22, 24, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmutz (US 2002/0031621) in view of Durrant et al. (US 6,501,955) in further view of Nakatsugawa (US 2001/0014586) as applied to Claim 1 above, and further in view of Periyalwar et al. (US 2004/0192204).

Regarding Claim 20, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Durrant further teaches at a wireless relay resource, combining received portions of relayed transmissions from the transmitter to reconstruct the transmission (Column 4 lines 12 – 38, the information that is transmitted by the mobile station to the base station is broken down into packets of data, said information is received by the repeater and relayed to the base station thus said repeater can combine said packets that comprise said information for the reconstruction of said information).

Durrant in view of Schmutz and in further view of Nakatsugawa does not teach combining received portions of relayed transmissions from the transmitter using hybrid automatic repeat request to reconstruct the transmission.

Periyalwar teaches combining received portions of relayed transmissions from the transmitter using hybrid automatic repeat request to reconstruct the transmission (Section 0042).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the HARQ method taught by Periyalwar in the system of Durrant in view of Schmutz and in further view of Nakatsugawa for the purpose of combating error in frames as taught by Periyalwar.

Regarding Claim 21, Durrant in view of Schmutz in view of Nakatsugawa and in further view of Periyalwar teaches all of the claimed limitations recited in Claim 20. Durrant further teaches combining received portions of relayed transmissions from the transmitter to reconstruct the transmission (Column 4 lines 12 – 38, the information that is transmitted by the mobile station to the base station is broken down into packets of data, said information is received by the repeater and relayed to the base station thus said repeater can combine said packets that comprise said information for the reconstruction of said information). Schmutz further teaches decoding received information (Section 0041).

Regarding Claim 22, Durrant in view of Schmutz in view of Nakatsugawa and in further view of Periyalwar teaches all of the claimed limitations recited in Claim 20.

Durrant further teaches at the wireless relay resource, relaying a reconstructed transmission to the base site (Column 4 lines 12 – 38).

Regarding Claim 24, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 23. Durrant further teaches combining received portions of relayed transmissions from at least one wireless relay resource with portions of transmissions form the transmitter to reconstruct the transmission (Column 4 lines 12 – 38, information that is transmitted by the mobile station to the base station is broken down into packets of data, in order for said information transmitted by said mobile station to be reconstructed the packets of data that comprise said information will be combined).

Durrant in view of Schmutz and in further view of Nakatsugawa does not specifically teach portions of redundant transmissions.

Periyalwar teaches portions of redundant transmissions (Column 6 lines 51 – 54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the HARQ method taught by Periyalwar in the system of Durrant in view of Schmutz and in further view of Nakatsugawa for the purpose of combating error in frames as taught by Periyalwar.

Regarding Claim 34, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Schmutz further teaches a wireless relay resource that will: demodulate and decode the transmission from the transmitter to provide decoded information (Section 0041); re-encode the

decoded information to provide re-encoded information; and - transmit the re-encoded information to the base site (Section 0042).

Durrant in view of Schmutz and in further view of Nakatsugawa does not specifically teach determining whether the transmission has been likely correctly received.

Periyalwar teaches determining whether the transmission has been likely correctly received (Column 6 lines 51 – 54, the ARQ method uses an acknowledgement notification when a data packet is received correctly).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the HARQ method taught by Periyalwar in the system of Durrant in view of Schmutz and in further view of Nakatsugawa for the purpose of combating error in frames as taught by Periyalwar.

Regarding Claim 35, Durrant in view of Schmutz in view of Nakatsugawa and in further view of Periyalwar teaches all of the claimed limitations recited in Claim 34. Schmutz further teaches demodulate and decode the transmission from the transmitter to provide decoded information (Section 0041); re-encode the decoded information to provide re-encoded information; and - transmit the re-encoded information to the base site (Section 0042), further includes: - not transmitting to the base site any relayed transmissions (Section 0031 lines 1 – 5, the repeater will not relay any signals when said are not transmitted to said repeater). Periyalwar further teaches determining whether the transmission has been likely correctly received (Column 6 lines 51 – 54, the

ARQ method uses an acknowledgement notification when a data packet is received correctly).

4. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmutz (US 2002/0031621) in view of Durrant et al. (US 6,501,955) in further view of Nakatsugawa (US 2001/0014586) as applied to Claim 31 above, and further in view of Dinkins (5,633,876).

Regarding Claim 32, Durrant in view of Schmutz and in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 31. Durrant further teaches a temporal directive assigned to the transmitter to support the transmission form the transmitter (Column 4 lines 12 – 38, the information that is transmitted by the mobile station comprises packets of data, said packets are transmitted one at a time thus there will be a temporary storage for the subsequent packets that need to be transmitted).

Durrant in view of Schmutz and in further view of Nakatsugawa does not specifically teach providing a relayed transmission temporal directive that is subsequent to a temporal directive as is assigned to the transmitter to support the transmission from the transmitter.

Dinkins teaches a relayed transmission temporal directive (Figure 2, Column 3 lines 36 – 39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the store and forward method in the repeater of Durrant in

view of Schmutz and in further view of Nakatsugawa for the purpose of reliably relaying said data packets as taught by Dinkins.

Regarding Claim 33, Durrant in view of Schmutz in further view of Nakatsugawa and in further view of Dinkins teaches all of the claimed limitations recited in Claim 32. Durrant further teaches allocating a time slot to support the relayed transmission that is subsequent to a time slot as is assigned to the transmitter for the transmission (Column 4 lines 12 – 38, GPRS and EDGE are GSM based systems, GSM systems use TDMA thus there will be time slots allocated, DECT systems also use TDMA).

5. Claim 40 is rejected under 35 U.S.C 103(a) as being unpatentable over Schmutz (US 2002/0031621) in view of Durrant et al. (US 6,501,955) in further view of Nakatsugawa (US 2001/0014586) as applied to Claim 1 above, and further in view of Argyroudis (5,892,758).

Regarding Claim 40, Durrant in view of Schmutz in further view of Nakatsugawa teaches all of the claimed limitations recited in Claim 1. Durrant in view of Schmutz in further view of Nakatsugawa does not teach allocating a wireless relay resource that couples via a wireline link to the base site.

Argyroudis teaches allocating a wireless relay resource that couples via a wireline link to the base site (Column 8 lines 1 – 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the wireline link taught by Argyroudis with the repeater of

Durrant in view of Schmutz and in further view of Nakatsugawa as an alternative means for forwarding a signal to said base station.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond S. Dean whose telephone number is 571-272-7877. The examiner can normally be reached on 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Raymond S. Dean
October 28, 2005

EDAN ORGAD
PATENT EXAMINER/TELECOMM.
11/9/05